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STATED MEETING, NOVEMBER 9th, 1841.

VICE PRESIDENT MORTON IN THE CHAIR.

DONATIONS TO MUSEUM.

Five specimens of rare and beautifully mounted birds of South Africa, viz.:—

Aquila vocifer.
Haliætus armiger.
Scopus umbressa.
Ibis hagedasch.
Sula bassana, or Solen Goose.

Presented by Mr. C. A. Poulson.

Two boxes of Insects from India, from Dr. Joseph Carson.

DONATIONS TO LIBRARY.

Observations on the Secondary and Tertiary Formations of the Southern-Atlantic States. By James T. Hodge. 8vo. From the author.

Descriptions de quelques espèces de Pourpres. Par M. Duclos. 8vo. Paris, 1832. From the author.

Note sur une fossile de Laon. Par M. Duclos. 4to. From the author.

Journal of the House of Representatives of Pennsylvania. 3 vols. 8vo.—Journal of the Senate. 2 vols. 8vo. Appendix to the Journal of the Senate; and one Volume of the Laws of Pennsylvania, passed by the Legislature in 1841. From the Commonwealth of Pennsylvania.

Description of Sixteen new species of North American Birds. By Jacob P. Giraud, Jr. M. D. Folio. New York, 1841. From the author.

Written Communications.—A letter was read from Dr. J. P. Giraud, presenting the copy of his work noticed in the donations of this evening.

Verbal Communications.—Mr. Quinby communicated some facts in relation to the Spontaneous Combustion of bituminous coal.

He had recently conversed with a gentleman who arrived on Friday last, in Philadelphia, from South America. The steam vessels sent from England to the Pacific, to run between Valparaiso and Panama, were made the subject of remark. His informant stated that one of the cargoes of coal sent from Great Britain to Chili, for the use of the steamers, took fire spontaneously on the voyage round Cape Horn; and that it was with difficulty extinguished. The gentleman also alluded to the fact so well known on that coast, that cargoes of bituminous coal, obtained at Conception, a few degrees south of Valparaiso, had ignited spontaneously on the voyage to Coquimbo, in the north of Chili, where an extensive copper-smelting establishment had been projected by an English company, and which was abandoned mainly in consequence of the character of the Conception coal.

Dr. Morton stated, that he had in his possession a living albino Raccoon, Procyon lotor, which he had received from the Rev. Joseph B. Gross, of Saillersville, near Easton, Pennsylvania. The animal is remarkably large and healthy, with very long yellowish white fur and pink-coloured eyes. Both in appearance and habits, this individual has much resemblance to a bear, and forcibly reminds the observer of the fact that Linnæus placed the Raccoon in his genus Ursus.

Prof. Johnson exhibited an apparatus to illustrate the phenomena of the rotation of fluids.

A cylindrical vessel or jar, about 4 inches in diameter and 12 inches high, was placed on a stand supported on an axis of revolution, standing vertical on a pivot, and put in motion by a band from a larger wheel moved by a crank. When any liquid is placed in this jar and a rapid motion is given to the latter, the liquid by degrees acquires the rotary velocity, and by the effect of centrifugal force is compelled to rise round the inside of the jar. If the velocity be sufficient, the liquid may be made to rise to the very top of the jar and be thrown out.

If two liquids of different specific gravities and incapable of chemical action on each other, be placed within the jar, the rotation of the glass may give to the different liquids corresponding velocities of rotation, but these will be acquired in times varying with the adhesiveness of the liquid to the glass.

This diversity in the times of acquiring the same velocity as the containing vessel, gives rise to some apparent anomalies, while the speed is either increasing or diminishing. If oil and spirit of turpentine be placed in the cylinder, the former at the bottom, the surface of separation is more concave upward than the upper surface of the turpentine, because the oil is more adhesive than the spirits of turpentine: but placing alcohol below the spirits of turpentine, the latter becomes the more adhesive liquid and acquires the velocity of revolution of the jar sooner than the other, whence it will, by its superior centrifugal force, be urged downward as well a upward, from its original level while at rest. The more adhesive liquid in this case constitutes a double concave lens. The same is produced when water, oil and alcohol are made to revolve in the same jar, the oil occupying the middle stratum in a state of rest, forms, at first and while the velocity is increasing, a concave surface both above and below, but when the speed of the revolution of the jar is slackened, it is by its superior adhesiveness sooner brought to rest than the other two liquids; these will therefore, by continuing their centrifugal force after that of the oil has ceased, cause the latter to assume a double convex form.

Prof. Johnson referred to some statements relative to experiments of this nature sometime since made in Paris, in which it was declared, that the "*chemical affinities*" of the liquids were the cause of these apparent anomalies; and that attempts had been made to deduce from experiments of this nature "a mechanical measure of chemical affinity."—With that species of attraction he proved that the results could have no connexion.